

NP



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,501	12/07/2000	Raul Rico	00P9039US	1258

7590 04/09/2002

Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER

PEREZ, GUILLERMO

ART UNIT PAPER NUMBER

2834

DATE MAILED: 04/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,501

Applicant(s)

RICO ET AL.

Examiner

Guillermo Perez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-12, 14-17 are rejected under 35 U.S.C. 102(b) as being
anticipated by Pavlik et al. (U. S. Pat. 4,508,985).

Referring to claim 1, Pavlik et al. disclose a method for tuning the torsional natural frequency of a rotor comprising the step of:

forming within winding slots (20) defined by radially projecting winding teeth at least one tuning slot (32) that extends radially inwardly from the bottom of the winding slot (20) a distance to tune the rotor (figure 3) to a desired torsional natural frequency.

Referring to claims 2, 6, 10, and 15, Pavlik et al. disclose that the at least one tuning slot (32) has a width (34) smaller than the diameter of any winding wire received within the winding slot (20) to prevent winding wire from passing into the tuning slot (32).

Referring to claim 3, 7, 11, and 16, Pavlik et al. disclose that the at least one tuning slot (32) is positioned at a location that minimizes impact to the electromagnetic characteristics of the rotor cross-section.

Referring to claims 4, 8 and 12, Pavlik et al. disclose a plurality of tuning slots (32).

Art Unit: 2834

Referring to claim 5, Pavlik et al. disclose a method for tuning the torsional natural frequency of a rotor having opposing poles and a quadrature axis, comprising the step of forming within the winding slots (20) defined by radially projecting winding teeth that are positioned substantially at the quadrature axis, at least one tuning slot (32) that extends radially inwardly from the bottom of the winding slot (20) a distance to tune the rotor to a desired torsional natural frequency.

Referring to claim 9, Pavlik et al. disclose a rotor comprising:

a rotor shaft;

a cylindrically configured rotor body (16) formed as part of the shaft and having a plurality of radially projecting winding teeth that define winding slots (20) for receiving winding wire therein, the winding slots (20) having a bottom portion spaced radially inward; and

at least one tuning slot (32) that extends radially inward from the bottom of a winding slot (20) a distance that tunes the rotor to a desired torsional natural frequency.

Referring to claim 14, Pavlik et al. disclose a rotor comprising:

a rotor shaft;

a cylindrically configured rotor body (16) formed as part of the shaft and having a plurality of radially projecting winding teeth defining winding slots (20) for receiving winding wire therein, the rotor body (16) having two or more poles and a quadrature axis, the winding slots (20) having a bottom spaced radially inward; and

at least one tuning slot (32) positioned at the quadrature axis and extending radially inward from the bottom of the winding slot (20) a distance that tunes the rotor to a desired torsional natural frequency.

Referring to claim 17, Pavlik et al. disclose a plurality of tuning slots (32) positioned substantially at the quadrature axis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 13, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pavlik et al. in view of Kobayashi (U. S. Pat. 4,827,172).

Pavlik et al. substantially teaches the claimed invention except that it does not show that the winding slots positioned at the poles are devoid of any tuning slot.

Kobayashi discloses that the rotor body (26) is formed of a plurality of rotor laminations stacked together. Kobayashi discloses that the winding slots (34a, 34b) positioned at the poles are devoid of any tuning slot (figure 2). Kobayashi's invention has the purpose of providing more slots than the rotor core of a conventional motor without either reducing the thickness of the teeth or using flat wires, and thereby making it possible to effectively increase the power output in comparison with that of conventional motors.

Art Unit: 2834


It would have been obvious at the time the invention was made to modify the rotor disclosed by Pavlik et al. and provide it with tuning slot devoid slots as disclosed by Kobayashi for the purpose of providing more slots than the rotor core of a conventional motor without either reducing the thickness of the teeth or using flat wires, and thereby making it possible to effectively increase the power output in comparison with that of conventional motors.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.


NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Guillermo Perez
April 6, 2002